

WHAT IS CLAIMED IS:

1. A control apparatus for an electrical generator of a vehicle, the apparatus comprising

switch means coupled to supply a drive current to
5 display means which indicate a power generating status of said electrical generator, said switch means operable for interrupting said supply of drive current,

current detection means for detecting a level of current flow through said switch means,

10 reference value generating means for determining a reference value, to be compared with said detected level of current, and

current limiting means for comparing said level of current with said reference value, and for limiting a
15 current supplying operation of said switch means in accordance with a result of said comparison;

wherein said reference value generating means successively outputs a plurality of reference values, including a first reference value corresponding to a
20 current value which is greater than a maximum value of surge current which flows in said switch means, and a second reference value which corresponds to a current value that is greater than a normal value of current which flows in said switch means.

2. The control apparatus for an electrical generator according to claim 1, wherein said reference value generating means produces three or more reference values including said first and second reference values, and
5 outputs said first reference value when a maximum value of an initial flow of current through said switch means occurs, and outputs a plurality of said reference values other than said first reference value as values which become successively smaller in a stepwise manner following
10 outputting of said first reference value.

3. The control apparatus for an electrical generator according to claim 1, wherein said reference value generating means establishes successively shorter
15 respective durations of outputting said reference values in accordance with respective magnitudes of said reference values.

4. The control apparatus for an electrical generator
20 according to claim 1, wherein said reference value generating means repetitively outputs a plurality of said reference values in succession, with a fixed repetition period.

5. The control apparatus for an electrical generator according to claim 4, wherein said predetermined period is 10 milliseconds or greater.
- 5 6. The control apparatus for an electrical generator according to claim 1, wherein said switch means comprises a MOS (Metal-Oxide semiconductor) type of transistor.